



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,595	06/30/2000	Kenneth W O'Flaherty	8981	9513

26890 7590 08/29/2003

JAMES M. STOVER
NCR CORPORATION
1700 SOUTH PATTERSON BLVD, WHQ4
DAYTON, OH 45479

EXAMINER

SHAFFER, ERIC T

ART UNIT PAPER NUMBER

3623

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/608,595

Applicant(s)

O'FLAHERTY, KENNETH W

Examiner

Eric T. Shaffer

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8 July 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This communication is in response to the amendment filed July 8, 2003.

Summary Of Instant Office Action

2. Applicant's arguments, filed July 8, 2003, concerning claims 1 – 42 in the Office Action mailed April 9, 2003, have been considered and deemed unpersuasive.

None of the old claims have been cancelled by the applicant and the applicant has not added any new claims. Claims 1 – 42 are pending and are prosecuted in the response set out below. Only one of the rejections in the Office Action mailed out on April 9, 2003, namely the rejection under 35 USC § 112 have been withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1 – 42** are rejected under 35 U.S.C. 102(b) as being anticipated by Amado (US 5,701,400).

Claims 1, 15 and 29 are a method, system and article of manufacturer for using predictive models within a computer-implemented business analysis environment. A model performing financial business analysis is anticipated by Amado, which discloses "Financial analysis and client account follow-up for a financial institution. Expertto identifies dangers and

Art Unit: 3623

opportunities in the financial condition of the firm and each of its clients and classifies these by priority and responsible individual” (column 21, lines 36 - 40).

The system comprising:

(a) applying a derived measure against a segment, wherein the derived measure comprises a predictive model previously-built by a model-building mechanism in a data mining system. A predictive model data mining system using data from a segment, which consist of a collection of data elements contained inside a database, is anticipated by Amado, which discloses “a professional tool for knowledge acquisition, classification, predictive modeling, expert system building, and database mining” (column 17, lines 18 - 20).

(b) generating output for the segment from the predictive model in the form of measure values. Generating output values for a segment, which consist of a collection of data elements contained inside a database, is anticipated by Amado, which discloses “a definable function may call and run one or more neural networks on a particular set of data in the data database and return the output values of that run as weighting factors and TRUE or FALSE responses thus controlling whether specific diagnostics should or should not be written in the diagnostics database” (column 61, lines 34 - 40), where the output format is also anticipated by Amado, which discloses “users may print or Email any information extracted from a screen, a window or a combination of windows” (column 43, line 66 – column 44, line 1).

5. **Claims 2, 16 and 30** are a method, system and article of manufacturer wherein the derived measure is invoked within an application template, the application template comprises a sequence of elements linked together in a workflow, and the elements are selected from a group comprising a segment, a filter, a measure and a function.

An application template is anticipated by Amado, which discloses “CBR application templates to assist developers” (column 16, line 29). Since Case Based Reasoning application templates are used exclusively to describe object oriented technology, where invoked objects consist of encapsulated variables and functions, disclosure of application templates that contains functions that manipulate variables anticipates an invoked derived measure.

Since Case Based Reasoning application templates contain text and number data elements, said CBR templates anticipate a sequence of linked together data elements, where a sequence of character and numeric data elements is disclosed by Amado in Figures 68, 72, 88 – 91, 93, 94 and 96 – 99.

Documentation of a series of work steps or a workflow is anticipated by Amado, which discloses “FIG. 9 to 14 show a few Operative Flow Diagrams of the invention. These indicate the steps a user should follow in order to operate the invention, and the general steps the invention follows when working with the data” (column 37, lines 12 - 17). These operative or work flow diagrams link together individual tasks performed by software that use the sequence of linked together database elements such as “First, the invention must access all the firm’s databases to build the database” (column 37, lines 19 –20) and “Second, the invention generates a complete database structure and index files” (column 37, lines 21 - 22) and “Third, define any groups of data items” (column 37, lines 26 - 27). Therefore, a application template comprises a sequence of elements linked together in a workflow is anticipated by the Amando.

Database elements in a filter is anticipated by Amado, which discloses “the filter dialog box allows any user to effectively query the system by filtering in or filtering out any particular records according to the query criteria” (column 67, lines 15 - 18).

Art Unit: 3623

Data elements is a measure is anticipated by Amado, which discloses “The environment offers facilities for automatic handling of data; business, statistical or custom measures of performance, simple and complex profit modeling, validation sample tests, advanced confidence tests, real time graphics, and optional control over the internal GA” (column 9, line 27 - 32).

A data set selected from a function is anticipated by Amado, which discloses “a definable function may call and run one or more neural networks on a particular set of data” (column 61, lines 34 - 36).

6. **Claims 3, 4, 17 18, 31 and 32** are a method, system and article of manufacturer wherein the application template is constructed in a visual programming environment. Developing programs using application templates, which by nature of being templates are inherently reusable, is anticipated by Amado, which discloses “CBR application templates to assist developers” (column 16, line 29). Developing programs in a visual development environment is anticipated by Amado, which discloses “Visual development of multiple applications-The user should be able to easily build intelligent applications by visually linking the data to develop key diagnostics” (column 25, line 66 – column 26, line 1).

7. **Claims 5, 19 and 33** are a method, system and article of manufacturer wherein a segment is a grouping of data elements from a database organized about one or more attributes. A group of data elements from an organized and normalized database is anticipated by Amado, which discloses “the group must contain exactly three elements. After this, for this example, all values to be propagated are normalized to values ranging from -1 to 1. Normalization proceeds

Art Unit: 3623

as follows: define A as the largest number in the group of three data elements selected” (column 90, lines 32 - 34).

8. **Claims 6, 20 and 34** are a method, system and article of manufacturer wherein a filter defines one or more attribute constraints applied to a segment. A filter that retrieves a select segment of data fields based on the attributes entered into a search query field is anticipated by Amado, which discloses “the filter dialog box allows any user to effectively query the system by filtering in or filtering out any particular records according to the query criteria” (column 67, lines 15 - 18). Use of the dialog box to define one or more attribute constraints is anticipated where “FIG. 38 shows one of the invention’s dialog boxes for the definition of data formulas in a particular application” (column 41, lines 63 – 64), and constraints are further anticipated by “using the Filter dialog box, the user may select the categories he wants to learn about. If he wants to know everything about the projects in charge of a particular person in the organization, he should only click at his name in the Filter dialog box” (column 43, lines 59 - 63).

9. **Claims 7, 21 and 35** are a method, system and article of manufacturer wherein a profile is a labeled collection of attributes of a segment. A collection of attributes or fields collected in a segment of a table is anticipated by Amado, which discloses “FIG. 74 shows the structure of the formats database file and its contents in the best embodiment's implementation. This database file is called DATAFORM.DBF, and the fields contained in each record are called: CODE, GROUP, FORMULA and ORDER” (column 45, line 14 - 18).

Art Unit: 3623

10. **Claims 8, 22 and 36** are a method, system and article of manufacturer wherein a measure is an expression applied to a segment. Applying an expression or formula to a segment of the database is anticipated by Amado, which discloses "GROUP contains the identifier for the data group to which this data formula will be applied, FORMULA contains the data formula, and ORDER contains the order of evaluation for this data formula" (column 45, line 18 - 22).

11. **Claims 9, 23 and 37** are a method, system and article of manufacturer wherein the computer-implemented business analysis environment includes an object model, and the segments, attributes, filters, and measures comprise objects. An object-oriented segment of a table, with attributes or fields, and measures or records is anticipated by Amado, which discloses "object-oriented databases development tools employ object-oriented techniques to substitute the fields, records and pointers scheme of relational databases with a more flexible approach" (column 12, lines 19 - 23).

12. **Claims 10 -13, 24, - 27 and 38 - 41** are a method, system and article of manufacturer are a method, system and article of manufacturer wherein operations upon the objects are translated into SQL statements that access corresponding tables and columns in a relational database management system. A tool used by database administrators for database management, that takes as input a user query and then translates said query into source code or SQL is anticipated by Amado, which discloses "tools typically available in most database administrator systems and which the user may use to develop other automatic query options, such as querying tools with which it would even be easy to implement a QBE Query By Example system, filters to select those fields and records to be examined, SQL statements, etc" (column 66, lines 2 - 7). That

such queries access tables and columns in a database is anticipated by Amado, which discloses “the data database, as shown in FIG. 3, may contain one or more of the following: (A) data tables and related index files for identifying each individual data item (B) group elements data tables that state which data items correspond to each group” (column 31, lines 6 - 10).

13. **Claims 14, 28 and 42** are a method, system and article of manufacturer wherein the model-building mechanism comprises an analytic algorithm for rule induction performed against data stored in a database management system to create the predictive model. A predictive model building mechanism that performs against data in a database is anticipated by Amado, which discloses “a tool to reason from data, a professional tool for knowledge acquisition, classification, predictive modeling, expert systems building, and database mining. This product is a decision support and database mining software that provides data analysis and knowledge discovery based on the methodology of rough sets” (column 17, lines 18 - 20), where “rough sets provide a series of tools for data analysis and knowledge discovery from imprecise and ambiguous data” (column 15, lines 17 - 18). An analytic algorithm represented by predicate calculus that performs rule induction is also anticipated by Amado, which discloses “rough sets analysis is a set of classification rules for classifying objects into two or more categories. The rules form a description of each category, typically in terms of an open formula of predicate calculus” (column 15, lines 39 - 44).

Response to Ammendments

14. Applicant's arguments filed July 8, 2003 have been fully considered, but the same are not persuasive.

a) Applicant argues that the Amado reference does not teach a segments as defined as a group of data elements organized about one or more attributes. However Amado does teach (column 36, lines 25 – 27, "one or more database tables containing lines or records containing individual data items of the data to be analyzed").

b) Applicant argues that the Amado reference does not teach a measure as defined as a formula applied against a segment. However Amado does teach (column 31, lines 14 – 18, "test descriptions and associated formulas data tables, data items identifiers identifying the set of items to which the test will be applied").

c) Applicant argues that the Amado reference does not teach a derived measure defined as a predictive model created by an analytic algorithm. However Amado does teach an algorithm that generates diagnostic predictive models (column 70, lines 61 - 63, "the invention's diagnostic generation general algorithm offers results similar to those of a forward chaining expert system").

d) Applicant argues that the Amado reference does not teach output from a predictive model. However Amado does teach a predictive model that produces computer screen graphic output (column 32, line 66 – column 33, line 6 , "This screen also shows a diagnostic originated from its knowledge database: "Comparative Analysis for February 94's forecast shows three centers of profit with serious budgeting problems. For more details select the COMPARATIVE

Art Unit: 3623

ANALYSIS GRAPH." In order to see any information required, the user just needs to select the corresponding graph").

In light of the above stated facts, examiner respectfully states that applicant's arguments have been fully considered, deemed unpersuasive, and the rejections under the prior Office Action, mailed April 9, 2003, are maintained.

Art Unit: 3623

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


16. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric Shaffer whose telephone number is (703) 305-5283. The Examiner can normally be reached on Monday-Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643. The fax number for the organization is (703) 305-0040/308-6306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703) 305-3900.

Eric Shaffer

August 23, 2003


TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600